Name:

1. Find the area bounded by the region between the curves  $f(x) = x^3 + 2x^2$  and  $g(x) = x^2 + 2x$ .

2. Find the area bounded by the region enclosed by the three curves  $y=x^3$ ; y=-x; and y=-1.

3. Find the area bounded by the curves  $y = \cos x$  and  $y = \sin(2x)$  on the interval  $\left[0, \frac{\pi}{2}\right]$ .

4. Using Calculus, find the area of the triangle with vertices at (0,1),(3,4) and (4,2).